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(54) [Title of the Invention] **Electrically powered toothbrush**

(57) [Claims]

[Claim 1] An electrically powered toothbrush comprising a transmission mechanism for converting rotation of a motor housed within a chassis case and capable of normal/reverse rotation into two kinds of reciprocating motion along the axial direction of a drive shaft, [said drive shaft] having a toothbrush detachably attached thereto, wherein said transmission mechanism comprises:

 a face gear rotatably supported by a fixed fulcrum shaft so as to rotate under driving force of said motor, and having a mating projection at a location offset from said fulcrum shaft;

 an eccentric cam element comprising an integrally connected cam base and eccentric cam, and having extending through these a through-hole through which said fulcrum shaft is passed; and

 cam follower portions mating with said eccentric cam and defined by connecting wall portions connecting the two ends of parallel walls which are juxtaposed a distance apart equivalent to the diameter of said eccentric cam; and wherein

 said cam base has its center at a location offset from said fulcrum shaft and comprises, at equal distances from this center, a first cam face for mating with said mating projection during normal rotation of said motor, said first cam face connecting with a first catch portion for mating with said mating projection, and a second cam face for mating with said mating projection during reverse rotation of said motor, said second cam face connecting with a second catch portion for mating with said mating projection; and wherein said eccentric cam is of circular post configuration having its center at a location offset from both said fulcrum shaft and the center of the cam base.